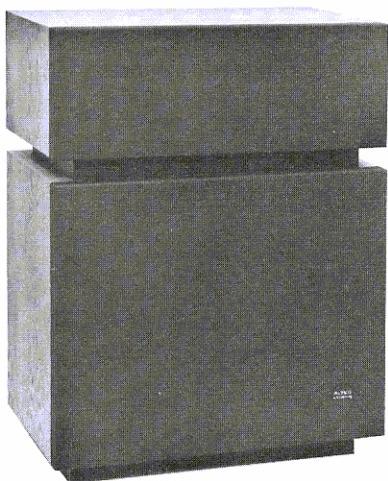




## STUDIO MONITOR SPEAKER SYSTEMS

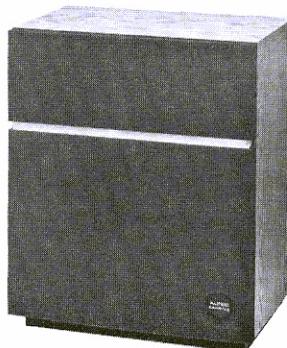
### OPERATING INSTRUCTIONS

Model 19 Walnut  
Model 19 Oak



MODEL 19  
OAK

Model 15 Walnut  
Model 15 Oak



MODEL 15  
OAK

Altec Studio Monitor Speaker Systems are designed to meet the stringent specifications of extended frequency response, low distortion and wide dynamic range that are required for use in recording and broadcasting studios. The bass loudspeaker (woofer) produces extended low-frequency response even when driven at exceptionally high power levels. Two frequency adjustment controls (high and mid-range) are provided to adapt the Studio Monitor Speaker Systems to a wide range of acoustic environments, including audition rooms, recording studio control room monitoring, remix studios, mastering rooms, broadcast studio monitoring and playback, auditoriums, nightclubs, conference rooms, theaters, churches, and other professional applications.

All of these Studio Monitor Speaker Systems combine excellent overall bandwidth, low distortion, uniform dispersion and extended frequency response. Major differences between the larger (Model

19 and smaller (Model 15 systems are 19 and smaller (Model 15 systems are sensitivity, acoustic output and enclosure size. For applications where sensitivity and acoustic output are of major importance, the larger Model 19 should be used. Where space is at a premium and slight reduction in sensitivity and acoustic output is not detrimental, the smaller Model 15 becomes the logical selection.

#### Wall or Ceiling Mounting

For many professional applications the Studio Monitor Speaker System is hung or suspended from a wall or ceiling. A recommended type of installation utilizes four  $1\frac{1}{4}$ "-20 eyebolts which are secured in the sides of the cabinet with flat washers and nuts. The low-frequency loudspeaker must be removed to install the eyebolts. The Studio Monitor Speaker System is then suspended by the four eyebolts with a lightweight chain (200-pound pull) from anchor points in the wall

or ceiling. Baffle angle of the monitor may be adjusted by raising or lowering one pair of supporting chains at the anchor points. Figure 1 illustrates a typical ceiling-mounted system. When the cabinet is hung 'bass-side-up', the network/equalizer assembly may be removed, rotated 180 degrees, and reinstalled to maintain a right-side-up orientation.

#### Optional Mounting Base

If the discriminating listener wishes to use the Studio Monitor Speaker System in the home environment, the optional mounting base may be secured to the bottom of the cabinet. To install the optional mounting base, position your Studio Monitor Speaker System on one side or the top, using a carpeted surface to protect the finish of the cabinet. DO NOT lay the system on its front side, because the grille coverings may be damaged. Position the base against the bottom of the cabinet, rubber feet facing outward, aligning the pilot screw holes. Install the supplied screws (No. 8 x  $2\frac{1}{2}$ " for Model 19 and No. 10 x  $1\frac{1}{2}$ " for Model 15 to secure the base to the cabinet. Tighten all screws.

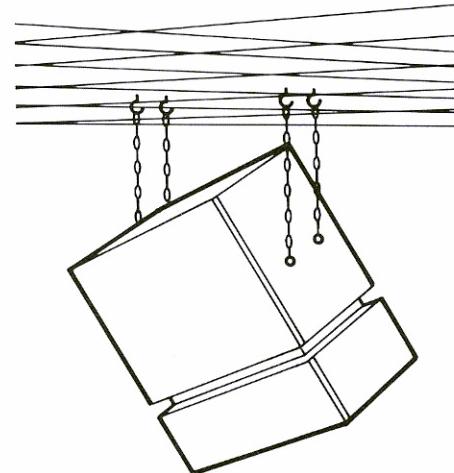


Figure 1. Suspended Studio Monitor Speaker System

*Specifications and components subject to change without notice. Overall performance will be maintained or improved.*

**ALTEC**  
SOUND PRODUCTS DIVISION

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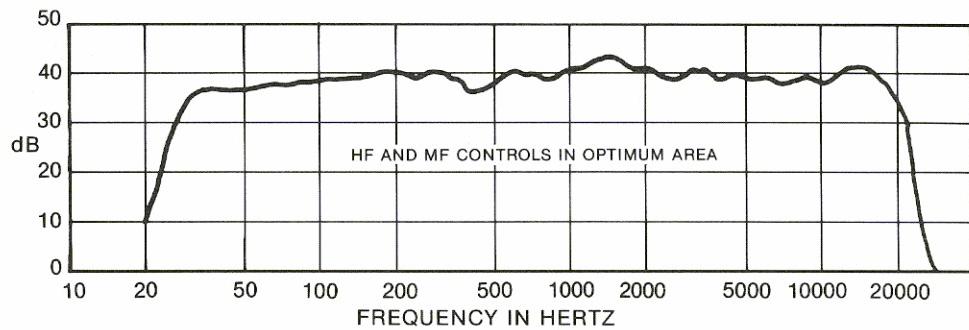
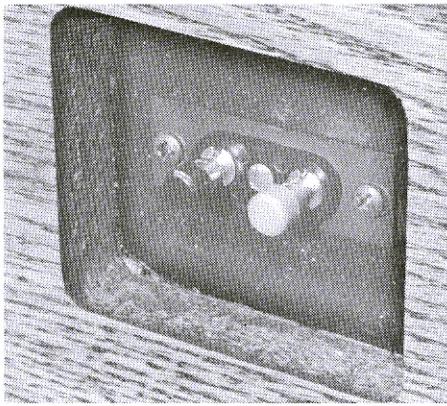


Figure 2. Typical Response of Model 19 with Optimum Control Settings

### Electrical Connections

Two terminals at the underside of the cabinet connect leads from the amplifier. If more than one Studio Monitor Speaker System is connected to the amplifier(s), be sure to observe polarity so that proper acoustic phasing is achieved.

### Removal of Grilles

'Push-and-lock' fasteners secure each grille to the cabinet. To remove a grille, simply grasp the upper corners and pull firmly outward. To put the grille back on, align it with the cabinet and press *each corner* until firmly seated. For the Model 15, also press the center of the grille, just below the horn area, to engage the central fastener.

### Frequency Controls

Two frequency controls are located on the network/equalizer assembly, behind the grille (lower grille for the Model 19). When the controls are positioned in the OPTIMUM area of adjustment, a 'flat' frequency response is obtained for most acoustic environments. Figure 2 shows a typically 'flat' response of the Model 19 when both frequency controls are set in the OPTIMUM area of operation.

When the HF LEVEL control is turned counterclockwise from the OPTIMUM area, the higher frequencies are 'rolled off' or reduced in volume. This enhances the bass and mid-range frequencies.

When the MF LEVEL control is turned counterclockwise from the OPTIMUM area, the mid-range frequencies are attenuated, producing a 'dip' in the mid-range portion of the audio spectrum. This enhances the bass and treble frequencies. Turning the control clockwise from the OPTIMUM area enhances the mid-range frequencies.

Figure 3 shows effects to the audio spectrum when the two controls are turned fully 'up' or 'down'. With both controls 'up' (solid line), both mid-range and treble frequencies are enhanced. With both controls fully 'down' (broken line), the same frequencies are attenuated, which enhances the bass frequencies.

Figure 4 shows effects to the audio spectrum when the controls are turned to extreme opposites to one another, with

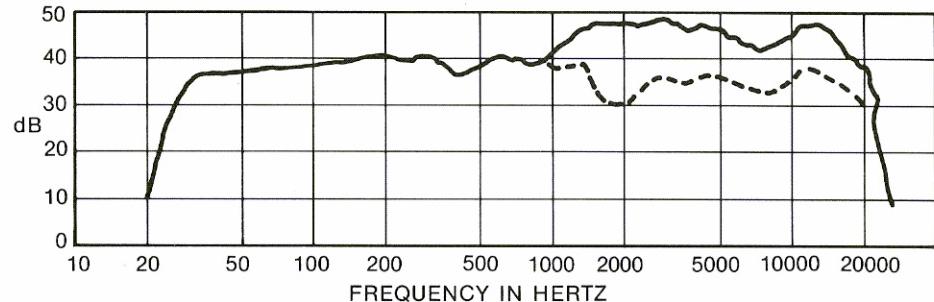


Figure 3. Typical Response of Model 19 with Controls at Maximum and Minimum Positions

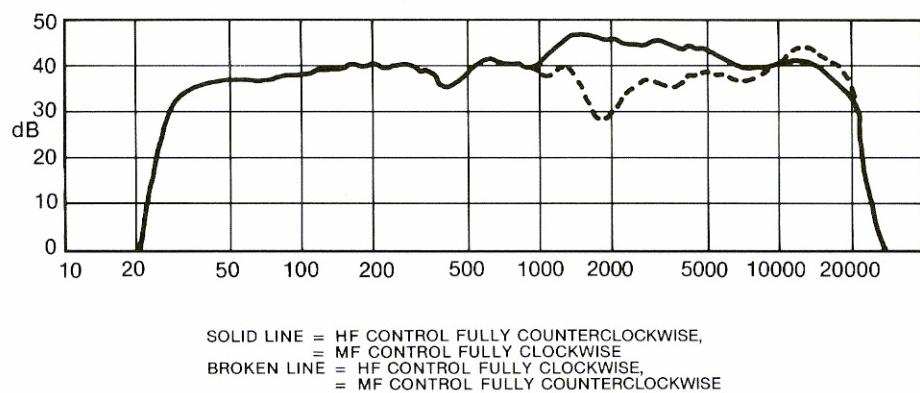


Figure 4. Typical Response of Model 19 with Controls at Opposite Maximum and Minimum Positions

one control fully 'up' and the other control fully 'down'. With the HF control 'down' and the MF control 'up' (solid line), mid-range frequencies are enhanced and treble frequencies are attenuated. With the HF control 'up' and the MF control 'down' (broken line), mid-range frequencies are attenuated and treble frequencies are enhanced.

Maximum range of the two controls is nominally 14 dB. Upon inspection of the curves shown in Figures 3 and 4, some interaction is seen between the two controls. This control interaction prevents extreme imbalance between mid to high response, and assures minimum phase shift through the crossover network. Controls for the Model 15 function in a similar manner.

By experimenting with these controls, you may determine which particular settings

produce the most pleasing effects for your acoustic environment.

### SERVICE INFORMATION

Speaker system components may be detached from the cabinet by removing appropriate mounting screws. The low-frequency loudspeaker and the network assembly each mount to the cabinet with four screws (see Figure 5). The Model 19 horn/driver assembly is mounted to the upper part of the cabinet with six bolts, which are accessible when the acoustic damper pad is removed. The Model 15 horn/driver assembly is mounted with four bolts. The driver and interfacing gasket are attached to the horn with two nuts and two washers (see Figure 6). Electrical connections are made in accordance with the schematic diagram of Figure 7.

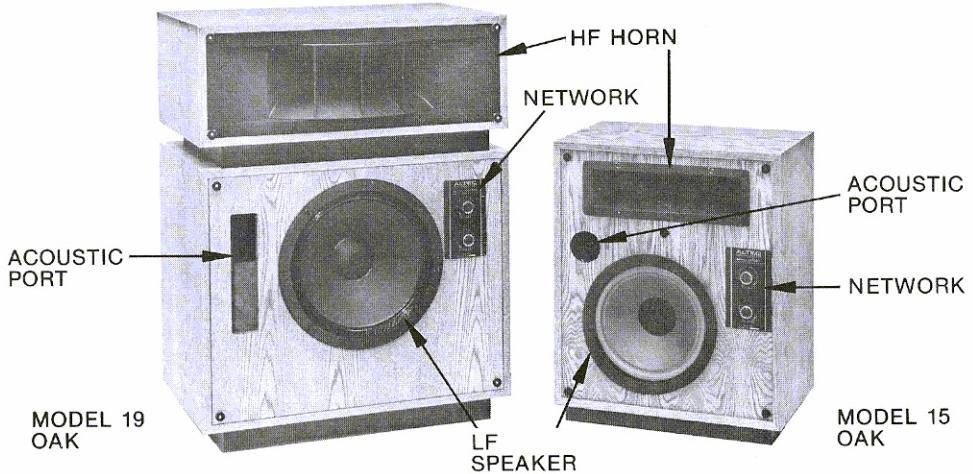


Figure 5. Typical Monitor System with Grilles Removed

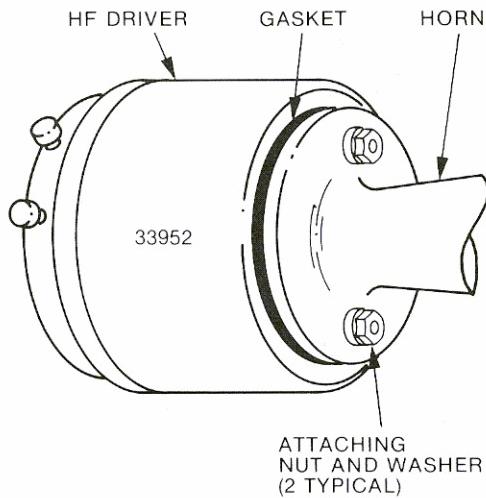


Figure 6. Horn/Driver Mounting

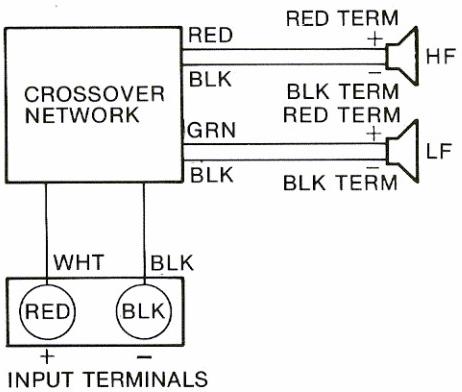


Figure 7. Schematic Diagram

**List of Replacement Components for Model 19**

Ordering Number	Name and Description
10-01-03-208	416-8B Low-Frequency Loudspeaker
10-01-03-288	33952 High-Frequency Driver
10-01-03-022	811B Horn
56-06-033843	Network/Equalizer Assembly
31-04-033846	Acoustic Damper

**List of Replacement Components for Model 15**

Ordering Number	Name and Description
10-01-03-266	Low-Frequency Loudspeaker
10-01-03-288	33952 High-Frequency Driver
50-02-032446	Horn
56-06-033874	Network Assembly
31-01-023921	Gasket, LF Loudspeaker

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